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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SINGH, ARTI R	

ART UNIT	PAPER NUMBER
1771	

MAIL DATE	DELIVERY MODE
07/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/616,790	HOLLAND ET AL.	
	Examiner	Art Unit	
	Ms. Arti Singh	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *appeal brief filed on10/19/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *29-41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Appeal Conference held on 01/03/07 for the Appeal Brief filed on 10/19/06, PROSECUTION IS HEREBY REOPENED. A non-final rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) File a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) Initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Terrel Morris

Supervisory Patent Examiner 1771

2. All previously made rejections are now withdrawn and new rejections are set forth below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

> patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 3966012 issued to Crewe in view of US 2003/0019418 A1 issued to Romanski et al.

Crewe teaches an air cushion vehicle having a flexible skirt assembly including an inflatable bag member (abstract). The flexible material used to make the skirt is generally a woven fabric coated with a natural or synthetic rubber. Said fabric maybe woven of high tensile fiber or reinforcing members (column 1, lines 55-57). Crewe fails to teach the composition make up of the high strength fibers that are used and the intermediate thermoplastic bonding layer and its specifics. Romanski et al remedy this.

Romanski et al. teach a flexible fluid containment vessel fabricated out of fabric for transportation purposes particularly used in fresh water environments [0002]. The fabric is coated on both sides with a thermoplastic material [0021-0023], or the fibers may be coated with a thermoplastic material and an additional coating layer may be applied to the coated fabric [0023]. The Examiner is equating this to a fabric layer coated on both sides with a thermoplastic coating, and then an additional layer of coating atop the thermoplastic coating layer [0023]. The thermoplastic coatings can be urethane, polyester, polyamide, polyvinyl chloride, polyolefin or the like [0051]. The Examiner is equating the thermoplastic layer to be equivalent to Applicant's bonding layer and any additional coating to be the outer layer. Other suitable polymeric coatings may be polyvinyl chlorides, polyurethanes, synthetic or natural rubbers, polyureas, polyolefins, silicone polymers and acrylic polymers. These polymers can be thermoplastic or thermoset [0043]. Whatever the combination of coatings that are chosen, the properties of tensile strength, abrasion resistance and flexibility are a must [0027 and 0042]. With regard to the fiber that composes the fabric or the fabric

reinforcement, the reference teaches the use of high strength fibers like Dyneema, which is a UHMWPE [0044-0046, 0050 and 0073]. The fabric may be woven, knit or braided [0070]. The denier ranges of the fibers that are employed are 210-10,000 [0050].

Crewe teach what is set forth above but fail to teach that their composite is used as part of an air cushion vehicle. However, there are analogous in that they are both used as a means of transporting and both used as vehicles on water. Additionally, a person having ordinary skill in the art at the time the invention was made would have found it obvious to have employed the composite of Romanski et al. in lieu of that used by Crewe. One would have been motivated to do so as the combination of fabric, fibers and coatings used by Romanski et al are exceptionally light in weight and buoyant, as hovercrafts and related crafts should be.

Crewe/Romanski et al teach what is set forth above but fail to teach that the outer layer is about 5-50 mils thick; that the fabric weighs between 5-11 ounces per square yard, and comprises between 17 ends to 35 ends in both the warp and fill direction; and that the percentages of the rubber components to be like those listed in Claims 12-14 and 23-25 or the resultant properties when tested with Taber Abrasion Resistance Test H-18.

With regard to the thickness of the outer rubber layer, Romanaski et al teach that they require the coating layer, which is rubber [0056] to have a density that is greater than salt water and must remain buoyant, but fails to ever tell the exact thickness of this layer. A person having ordinary skill in the art at the time the invention was made would have found it obvious to optimize the thickness of the outer rubber layer since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the

claimed thickness is critical and has unexpected results. In the present invention, one would have been motivated to optimize the thickness of the outer layer motivated by the desire to create a suitably strong, flexible and impermeable composite material.

With regard to the fabric weight and the number of ends per warp and fill, Romanski et al teach that they require their fabric to be light in weight [0074+], but fails to explicitly teach that the fabric has a basis weight of 5-11 oz/yd2 or that the woven weave has 17*35 ends per inch. A person having ordinary skill in the art at the time the invention was made would have found it obvious to optimize the weave and the basis weight of the fabric, since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed ends per inch and basis weight of the fabric are critical and has unexpected results. In the present invention, one would have been motivated to optimize the weave and basis weight of the fabric motivated by the desire to create a composite that is suitably strong, flexible yet extremely light in weight.

With regard to Claims 9-11 and 26-28, it is the position of the Examiner that although, Romanski et al do not explicitly teach the claimed resultant properties when tested with Taber Abrasion Resistance Test H-18 as recited in claims 9-11 and 26-28, it is reasonable to presume that this property of abrasion resistance is inherent if not obvious to the invention of Romanski et al. Support for said assumption is found in the use of like materials, both structurally and chemically they create a composite that is used primarily atop of water and require that abrasion resistance be a key feature of their invention. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald 205 USPQ 594.* In addition, the presently claimed property of abrasion resistance would obviously have been present once the

Romanski et al. invention is provided. Note In re Best 195 USPQ at 433.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-T 9-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ms. Arti Singh
Primary Examiner
Art Unit 1771

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